Predictors and Importance of Improving Ejection Fraction In DCM

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Contemporary heart failure therapies improve the prognosis and the left ventricular (LV) function. We examined the prevalence, clinical features and therapies associated with improvement of the LV ejection fraction (EF) in patients with an established diagnosis of dilated cardiomyopathy (DCM).

Detailed clinical data and echo-doppler follow-up (at least 6 months apart) were available in 188 patients treated in Sheba Heart Failure Clinic. Improved EF (IEF), was defined as an increase by at least 10% points. It occurred in 87 (46%) in whom EF increased from 26±7 to 48±10% vs. a decrease from 30±9 to 27±10 in the "noIEF" group. IEF was associated with a reduction in the LV end systolic dimension (46±9 to 35±9 mm, $p<0.001$), left atrial size and pulmonary artery pressure. Patients with IEF experienced an improvement in the severity of mitral and tricuspid regurgitation, right ventricular function and the NYHA functional class.

Univariate associations with IEF were shorter disease duration, absence of familial cardiomyopathy, older age on diagnosis, relationship to chemotherapy or pregnancy; lower initial EF, dyspnea, gallop but a normal ECG on presentation. Utilization of evidence based drug therapies and cardiac resynchronization were not associated with IEF in our cohort. However, there was a positive effect of a higher dose of beta blockers. Multivariate logistic regression identified disease duration, lower initial EF, normal ECG and a higher beta blocker dose as independent predictors of IEF. Over a mean follow up of 23 months, only 1 patient from the IEF group reached the end-point of death or transplantation, compared with 13 from the control group ($p=0.03$). We conclude that a considerable proportion of DCM patients are expected to improve their EF with contemporary therapy.

Optimal medical therapy + close observation are recommended in appropriately selected patients prior to committing to surgical or device implant interventions.